

Table of Contents

Project Overview and Description.....	2
<i>Purpose of this report</i>	2
<i>Project Location</i>	2
<i>Type of Development and Proposed Improvements</i>	2
<i>Existing vs. Post-construction Conditions</i>	3
Methodology	3
<i>Drainage and Conveyance</i>	3
<i>Flow Control</i>	4
Engineering Conclusion	5
Operations and Maintenance	5

Tables and Figures

Figure 1: Vicinity Map.....	2
Table 1: On-Site Existing and Post-Development Areas	4
Figure 2: SSA Basin Map	5

Appendices

- Appendix A
 - Stormwater Basin Maps
- Appendix B
 - Stormwater Details
- Appendix C
 - Proposed Utility Plan

Project Overview and Description

Purpose of this report

This report describes the stormwater management design strategies for the proposed development. The basis for this report are the City of Newberg stormwater requirements and the requirements outlined therein. The purpose of the proposed stormwater management facilities is to protect existing public stormwater infrastructure and improve the overall health of the watershed.

Project Location

The project site is located at 403 W Foothills Dr, Newberg, OR 97132 consists of approximately 16.83 acres of private land in the City of Newberg, Oregon. See Figure 1 below for the Vicinity Map.

The proposed building addition, renovations and exterior site improvements will result in a net positive area of treatment per current City of Newberg LIDA form requirements.

Figure 1: Vicinity Map



Type of Development and Proposed Improvements

On-site

The project will include the demolition of one modular classroom. Site improvements include the south east parking lot resurfacing. The north west drive aisle will have proposed structure of approximately 4,744 sf that covers approximately 1,177 sf of existing impervious area, a storm planter of 300 sf and a replaced existing sidewalk. East side of Chehalem Valley middle school will add approximately 1,577 sf of impervious roof space and remove approximately 1,910 sf of portable classrooms and 760 sf of impervious ramp

surface. New Covered Play east side of the campus new proposed impervious area 3,616 sf that covers approximately 1,115 sf of existing impervious area to be removed. 1,206 SF New impervious hardscape to be added south of Antonia Crater Elementary school building and around new ADA parking space

Existing vs. Post-construction Conditions

The grades for the majority of the site are level however sheds north west to south east.

Table 1: On-Site Existing Removed and Post-Development Areas

	Ex. Impervious Hardscape Area Remain (sf)	New Impervious Hardscape Area (sf)	Ex. Impervious Roof Area (sf)	New Impervious Roof Area (sf)	Total Impervious Area (sf)
Existing Removed	3,052	0	1,910	0	4,962
Post-Developed	0	1,206	0	8,360	8,360
				Net Area (sf)	4,604

Methodology

At a minimum, the City of Newberg requires that the post-development runoff rate does not exceed the pre-development runoff rate, and that all stormwater quality facilities meet design requirements of the current City of Newberg LIDA Form. Therefore, the initial design investigations followed those required by the LIDA, which were to determine if it was possible to manage storm via a flow-through planter. The planter is sized per a sizing factor of 0.060 or impervious area required to be treated.

Table 2: City of Newberg LIDA Sizing

Area	Impervious Hardscape Area (sf)	Impervious Roof Area (sf)	Total Impervious Area (sf)	Facility Sizing Factor (Flow Through Planter)	Required Planter Size (sf)	Actual Planter Size (sf)
Cover Play	4,744	0	4,744			
	Required treatment total area:		4,744	6%	285	300

Drainage and Conveyance

The proposed development consists of approximately 12.1 total acres, with predevelopment impervious area of approximately 3,847 sf and a post development area of approximately 8,360 sf providing a proposed net new impervious area of approximately 4,513 sf.

The new proposed cover on the north west section of the property consisting of approximately 4744 sf. Through a single roof drain, drains directly into Flow-through planter of 300 sf. Will ultimately discharge to the existing municipal system at the western portion of main campus along NE Chehalem Dr. of the main campus.

Flow Control

As outlined in the City of Newberg requirements, onsite storm quantity detention facilities shall be designed to capture, detain, and release runoff of the 2, 5, 10, and 25-year design storms at a rate equal or less than the predevelopment discharge rate.

LIDA Water Quality

As outlined in the City of Newberg requirements, onsite storm quantity detention facilities shall be designed to capture, detain, and release runoff of the 2, 5, 10, and 25-year design storms at a rate equal or less than the predevelopment discharge rate.

Engineering Conclusion

Based on the requirements of LIDA and the engineering assumptions and calculations detailed in this report, all facility components are anticipated to have enough capacity to manage flow control and are designed to treat to the necessary level of pollution reduction.

Operations and Maintenance

In order for the stormwater detention facilities to operate at acceptable levels, regular maintenance and inspection is required. An Operations and Maintenance Plan that provides instruction and procedures for maintaining these facilities will be developed and provided to the property owner.

The party to perform maintenance shall enter into a maintenance agreement with the city that is recorded in the deed records of Yamhill County, Oregon.

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Appendix A

Stormwater Basin Maps

Appendix B

Stormwater Details

Appendix C

Proposed Utility Plan